

Remarks/Arguments

The Examiner is thanked for the careful review of this application. Claims 1-19 were previously cancelled and claims 20-38 are currently pending. Independent claim 20 has been amended to place the claim in better condition for appeal.

Rejections under 35 U.S.C. § 103(a)

The Office has maintained rejection of the claims under the cited prior art. The Applicant respectfully traverses the Office's assertion as the office has failed to establish a *prima facie* case of obviousness based on a combination of the cited references. Primarily, the Office has failed to provide any teaching, suggestion, or motivation, either in the references or in the knowledge generally available to one having ordinary skill in the art, that would have lead a person of ordinary skill in the art to combine the references in the manner proposed by the Office. See *WMS Gaming, Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1359 (Fed. Cir. 1999). See also *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1371 [56 USPQ2d 1065] (Fed Cir. 2000). Given the Office's failure to establish the *prima facie* case of obviousness, the Office should not be allowed to label a solution that was not obvious to one of ordinary skill in the art at the time of the invention, obvious, in hindsight. See *id.* See also, e.g., *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (wherein the court held that "[p]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed." (emphasis added)); *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) (wherein the court indicated that ". . . the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." (emphasis added)).

Considering the courts' findings and analysis, the Applicant respectfully submits that the Office has combined the prior art references without evidence of any suggestion, teaching, or motivation. The Office has further taken the Applicant's disclosure as "a blueprint for piecing together the prior art to defeat patentability" known to bet he essence of hindsight. *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). Specifically, none of the references teaches, suggests, or provides the motivation to form an opening through an entire thickness

of a hard mask layer defined over a low dielectric constant layer and the photoresist layer, exposing of the low dielectric constant layer. Nor do any of the references teach following up the formation of the opening in the hard mask layer with dimethyl sulfoxide of HPLC grade to remove the photoresist without damaging the low dielectric constant layer. Rather, as described in more detail in the Applicant's response, dated October 25, 2004, and as evident by the actions issued by the Office, five different references had to be cited by the Office no combinations of which discloses all the features of the claimed invention.

For instance, the Office has found suggestion or motivation in Chen to use the ACT-690 of Chen in Wojnarowski so as to selectively remove the photoresist mask without attacking the low dielectric layer. In doing so, however, the Office has assumed, without any justifications, that Chen's use of ACT-690 is the conventional method and, that it can be used to remove photoresist from over the low dielectric constant layer without attacking same. Chen, however, does not disclose, teach, or suggest using low dielectric constant materials and, merely teaches using ACT-690 to remove photoresist from over dielectrics such as SiO₂. As such, Chen can hardly teach that Chen's method is the conventional method of removing photoresist when low dielectric constant layers are concerned.

Furthermore, the Office has indicated that because Wojnarowski does not teach a specific method of stripping the photoresist, any method may be implemented. However, while Wojnarowski may not specifically teach any particular means of removing the photoresist, Wojnarowski specifically teaches that any means used to remove the photoresist should be able to remove the photoresist from over the low dielectric constant layers as opposed to the SiO₂ layers. It is unclear which parts of the references the Office believes to provide the motivation or suggestion to combine the references or the manner of combination as suggested by the Office.

The Office has further extended the Office's analysis indicating that the oxygen plasma removal of the photoresist taught in Huang can be replaced by ACT-690 taught in Chen, as Chen teaches that oxygen plasma and ACT-690 are equivalent. The Applicant submits that the Office's reliance on oxygen plasma and ACT-690 being equivalents is misplaced. Under the MPEP section 2144.06, in order to rely on equivalence as a rationale to support an obviousness rejection, the equivalency must be recognized in the prior art.

Furthermore, "the mere fact that components are claimed as members of a markush group cannot be relied upon to establish the equivalency of these components." *See In re Ruff*, 256 F.2d 590, 118 USPQ 340 (CCPA 1958). The Applicant submits that oxygen plasma and ACT-690 are not necessarily equivalents as in claim 10, Chen claims to strip the photoresist either by using a suitable solvent or by ashing in an oxygen containing plasma. Thus, under section 2144.06 of the MPEP and *In re Ruff* the Office has failed to establish equivalency as using the solvent and oxygen plasma are members of a markush group.

Even if the two means can be considered to be equivalent (a preposition with which the Applicant disagrees), the Office has yet again relied on a suggestion or teaching not specifically provided by any of the references. Under the MPEP section 2143.01, a statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USQD2d 1300 (Bd Pat. App. & Inter. 1993). Nor is a statement that the references relied upon teach that all aspects of the claimed invention were individually known in the art at the time of the invention *Id.*; *See also Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999) (wherein the court found that "the level of skill in the art cannot be relied upon to provide the suggestion to combine references."). It is respectfully submitted that in finding suggestion or motivation to combine, the Office should have referred to objective suggestions, teachings, or motivations in the references. Rather, the Office has repeatedly referred to "what would have been obvious to a person of ordinary skill in the art at the time of the invention to modify" to arrive at the claimed invention.

Furthermore, finding that Chen teaches dissolving the photoresist layer using the dimethyl sulfoxide and performs the same process steps, the Office has concluded that it is inherent that the dimethyl sulfoxide has a high selectivity toward a low dielectric constant material. In arriving at such a conclusion, however, the Office has once again disregarded that Chen is only directed at dielectrics such as SiO₂ and not, low dielectric constant layers.

Yet further, the Applicant respectfully traverses the Office's interpretation that the Applicant's arguments filed on 12/17/ 2004 are unpersuasive. In the Office Actions, the

Office has repeatedly indicated that Wojnarowski or Huang have been referred to for teaching the low constant dielectric, Chen is relied upon solely to teach a method of removing a photoresist layer using dimethyl sulfoxide, and Fujimura is relied upon for teaching using an ultrasonic bath. In doing so, the Office has disregarded several of the Applicant's arguments. Furthermore, the Office's own statements in the Office Actions supports the Applicant's assertion that the Office has used the Applicant's invention as a blueprint for piecing together the prior art to defeat patentability of the Applicant's invention.

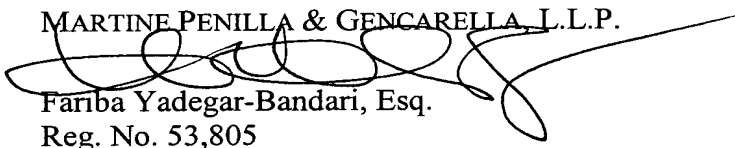
Accordingly, it is respectfully submitted that independent claims 20, 26, and 34 are patentable over any combination of the cited art of record. Likewise, dependent claims 21-25, 27-33, and 35-38 are also submitted to be patentable over the cited art of record for at least the same reasons discussed above. Accordingly, the Applicant respectfully requests that the § 103(a) rejections be withdrawn.

Applicant hereby submits that this Amendment complies with 37 C.F.R. 1.116(b) and should be entered.

In view of the foregoing, the Applicant respectfully submits that all of the pending claims 20-38 are in condition for allowance. Accordingly, a Notice of Allowance is respectfully requested. If the Examiner has any questions concerning the present Request for Reconsideration, the Examiner is kindly requested to contact the undersigned at (408) 774-6913. If any fees are due in connection with filing this Amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. LAM2P266).

Respectfully submitted,

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